

Milk Banking and COVID-19
Updated, 4/6/20
(Original, 3/6/20)

Quality and Safety: HMBANA Guidelines

The Human Milk Banking Association of North America (HMBANA) is carefully monitoring ongoing developments regarding the outbreak of COVID-19 and how it relates to milk banking.

Numerous safeguards are in place to protect the quality and integrity of every bottle processed, including strict donor screening, validated pasteurization, and third-party microbiological testing.

All of HMBANA's 29 nonprofit milk bank members are required to meet specific guidelines as a criterion for membership. HMBANA's ["Guidelines for the Establishment and Operation of a Donor Human Milk Bank"](#) provide evidence-based direction to support the screening, handling, and distribution of a safe, optimal protocol by its member milk banks.

Developed and maintained with the involvement of the Centers for Disease Control and Prevention (CDC) and the U.S. Food and Drug Administration (FDA), the Guidelines address three layers of recipient protection from disease transmission.

First, donors are screened for medical and lifestyle risk factors, and serum is screened for HIV, HTLV, syphilis, and Hepatitis B and C. Then, milk is pasteurized, a process that kills HIV and cytomegalovirus as well as other viruses and bacteria. Lastly, no milk is dispensed after pasteurization until a culture is negative for bacteriological growth.

COVID-19 And Genetically Similar Viruses

Research specific to COVID-19 is still emerging as the current outbreak evolves. While COVID-19 is a novel (new) virus and data is limited, characteristics of similar viruses such as SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome) are significantly relevant and applicable to milk banking.

On February 11, 2020, the International Committee on Taxonomy of Viruses (ICTV) named this newly identified virus "severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)", now called "COVID-19" because of its genetic similarities to the SARS coronavirus responsible for the outbreak in 2003 (World Health Organization [WHO], 2020). Existing SARS and MERS research provide valuable information when evaluating virus transmission and inactivation.

Heat Inactivation of the Virus

Studies have documented complete heat inactivation of genetically similar viruses such as SARS and MERS, specifically heat treatment of 60°C for 30 minutes (Miriam & Taylor, 2006; Rabenau et al., 2005; van Doremalen, 2014). **All donor milk dispensed by HMBANA banks undergoes heat treatment using the Holder pasteurization method of 62.5°C for 30 minutes.**



*** Update as of April 6, 2020:** New evidence regarding the stability of Sars-CoV-2 at different environmental conditions reported that the virus is significantly reduced when heated to 56°C for 10 minutes, and within 30 minutes the virus is completely inactivated (Chin et al., 2020). Currently, there are two additional studies in process evaluating the stability of the virus specifically in breastmilk. We will continue to update our statement as we learn more.

Transmission and Breastmilk

“Person-to-person spread is thought to occur mainly via respiratory droplets produced when an infected person coughs or sneezes, similar to how influenza (flu) and other respiratory pathogens spread.” (CDC, 2020)

In limited studies including women with SARS, the virus has not been detected in breastmilk, however, it is not known whether mothers with COVID-19 can transmit the virus via breastmilk.

In a recent, but small study in China, a group of six mothers testing positive for COVID-19 were studied after giving birth. **No evidence of the virus was found in their samples of breastmilk, cord blood, amniotic fluid, or throat swabs of their newborns** (Chen et al., 2020).

Breastfeeding Safety

The immunological properties of breastmilk protect babies against many illnesses. Breastfeeding mothers should follow these CDC guidelines:

“Whether and how to start or continue breastfeeding should be determined by the mother in coordination with her family and healthcare providers. A mother with confirmed COVID-19 or who is a symptomatic PUI should take all possible precautions to avoid spreading the virus to her infant, including washing her hands before touching the infant and wearing a face mask, if possible, while feeding at the breast. If expressing breast milk with a manual or electric breast pump, the mother should wash her hands before touching any pump or bottle parts and follow recommendations for proper pump cleaning after each use. If possible, consider having someone who is well feed the expressed breast milk to the infant” (CDC, 2020).

Screening Milk Donors

Mothers are [rigorously screened](#) by HMBANA member banks verbally, through a written questionnaire and blood testing. A medical release is obtained from each donor’s licensed healthcare provider. Donor screenings include detailed inquiries regarding international travel as well as recent illness history including family members in the home. Mothers are deferred based on responses.

HMBANA and our member banks will continue to vigilantly monitor the COVID-19 outbreak to safeguard its donor milk supply.

Since HMBANA’s founding in 1985, there has never been an incident of disease transmission or a negative outcome in an infant due to the processing or distribution of pasteurized donor

REFERENCES

- Center for Disease Control and Prevention (CDC). (2020). Interim guidance on breastfeeding for a mother confirmed or under investigation for COVID-19. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/specific-groups/pregnancy-guidance-breastfeeding.html>
- Chen, H., Guo, J., Wang, C., Luo, F. L., Yu, X., Zhang, W., Li, W., et al. (2020) Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: A retrospective review of medical records. *The Lancet*. Advanced online publication. DOI:[10.1016/S0140-6736\(20\)30360-3](https://doi.org/10.1016/S0140-6736(20)30360-3)
- Chin, A. W., Chu, J. T., Perera M. R., Hui, K. P., Yen, H. L., Chan, M. C., Peiris, M., & Poon, L. L. (2020). Stability of SARS-CoV-2 in different environmental conditions. *The Lancet Microbe*. Advanced online publication. DOI:[10.1016/S2666-5247\(20\)30003-3](https://doi.org/10.1016/S2666-5247(20)30003-3)
- Miriam, E. R. & Taylor, D. R. (2006) Evaluation of inactivation methods for severe acute respiratory syndrome coronavirus in noncellular blood products. *Transfusion*, 46(10), 1770-1777. DOI:[10.1111/j.1537-2995.2006.00976.x](https://doi.org/10.1111/j.1537-2995.2006.00976.x)
- Rabenau, H. F., Cinatl, J., Morgenstern, B., Bauer, G., Presler, W., & Doerr, H. W. (2005). Stability and inactivation of SARS coronavirus. *Journal of Medical Microbiology and Immunology*, 194, (1-2),1-6. DOI:[10.1007/s00430-004-0219-0](https://doi.org/10.1007/s00430-004-0219-0)
- World Health Organization (WHO). (2020). Naming the coronavirus (COVID-19) and the virus that causes it. Retrieved from [https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-\(covid-2019\)-and-the-virus-that-causes-it](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it)
- van Doremalen, N., Bushmaker, T., Karesh, W. B., & Munster, V. J. (2014). Stability of Middle East Respiratory Syndrome Coronavirus in Milk. *Emerging Infectious Diseases*, 20(7), 1263-1264. DOI:[10.3201/eid2007.140500](https://doi.org/10.3201/eid2007.140500)

Thanks to [Mothers' Milk Bank of North Texas](#) for the original research and content used in this document.